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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			THANGAVELU, KANDASAMY	
			ART UNIT	PAPER NUMBER
			2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/356,260

Applicant(s)

EIZENHOEFER ET AL.

Examiner

Kandasamy Thangavelu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This communication is in response to the Applicants' Amendment mailed on September 28, 2004. Claims 1- 19 of the application were deleted. Claims 20-38 of the application are pending. This office action is made final.

Claim Objections

2. The following is a quotation of 37 C.F.R § 1.75 (d)(1):

The claim or claims must conform to the invention as set forth in the remainder of the specification and terms and phrases in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

3. Claim 36 is objected to because of the following informalities:

Claim 36, Lines 2-4, "the second device further comprises encoding means for encoding data transmission using a mode code based on the reformed second control information" appears to be incorrect and it appears that it should be "the first device further comprises encoding means for encoding data for transmission using a mode code based on the reformed second control information". This is because claim 34 states that the first device comprises a partitioning means and a transmitter means, while the second device comprises a receiving means.

Claim Interpretations

4. In Claim 36, Lines 2-4, "the second device further comprises encoding means for encoding data transmission using a mode code based on the reformed second control information" has been interpreted as "the first device further comprises encoding means for encoding data for transmission using a mode code based on the reformed second control information".

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 20-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6.1 Claim 20 states in part, "there further being provided a second type of control information, the method comprising:

partitioning the second type of control information into a number of sections corresponding to the number of frames in the multi-frame; and
transmitting with each frame of the multi-frame:
...
a section of the partitioned second type of control information”.

This is in contrast to what the specification describes in Page 4, Lines 23-30 and is new information introduced by the Applicants at this stage. The specification states that “the speech coded data from step 101 is channel coded together with at least one additional bit derived from a multi-frame signaling step 102.... The additional bit from step 102 is a part of the three bit information used for coding additional signaling information. ... In this example, it takes three frames within a multi-frame of six frames, as e.g. defined and used according to the GSM standard, to transmit the coding mode information as within each frame only one of three bits is transmitted”.

Therefore, “partitioning the second type of control information into a *number of sections corresponding to the number of frames in the multi-frame*; and transmitting with *each frame of the multi-frame* a section of the partitioned second type of control information” is not supported by the specification.

6.2 Claim 29 states in part, “wherein *each frame is transmitted with* the first type of control information for the respective frame; and *a section of a partitioned second type of control information*”.

This is in contrast to what the specification describes in Page 4, Lines 23-30 and is new information introduced by the Applicant at this stage. The specification states that “the speech coded data from step 101 is channel coded together with at least one additional bit derived from a multi-frame signaling step 102.... The additional bit from step 102 is a part of the three bit information used for coding additional signaling information. ... In this example, it takes three frames within a multi-frame of six frames, as e.g. defined and used according to the GSM standard, to transmit the coding mode information as within each frame only one of three bits is transmitted”.

Therefore, “each frame is transmitted with a section of a partitioned second type of control information” is not supported by the specification.

6.3 Claim 32 states in part, “the communication device comprising:

partitioning means adapted to partition the second type of control information into *a number of sections corresponding to the number of frames in the multi-frame;*

transmitter means adapted to transmit with each frame of the multi-frame:

...

a section of the second type of control information”.

This is in contrast to what the specification describes in Page 4, Lines 23-30 and is new information introduced by the Applicant at this stage. The specification states that “the speech coded data from step 101 is channel coded together with at least one additional bit derived from

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a multi-frame signaling step 102.... The additional bit from step 102 is a part of the three bit information used for coding additional signaling information. ... In this example, it takes three frames within a multi-frame of six frames, as e.g. defined and used according to the GSM standard, to transmit the coding mode information as within each frame only one of three bits is transmitted”.

Therefore, “partitioning means adapted to partition the second type of control information into *a number of sections corresponding to the number of frames in the multi-frame* and transmitter means adapted to transmit *with each frame of the multi-frame* a section of the second type of control information” is not supported by the specification.

6.4 Claim 33 states in part, “wherein *each frame is transmitted with* the first type of control information for the respective frame; and *a section of a partitioned second type of control information*”.

This “each frame is transmitted with a section of a partitioned second type of control information” is not supported by the specification, as described in Paragraph 3.2 above.

6.5 Claim 34 states in part, “the communication device comprising:

a first device having a partitioning means adapted to partition the second type of control information into *a number of sections corresponding to the number of frames in the multi-frame*; and transmitter means adapted to transmit with each frame of the multi-frame ... a section of the second type of control information”.

The “partitioning means adapted to partition the second type of control information into *a number of sections corresponding to the number of frames in the multi-frame* and transmitter means adapted to transmit *with each frame of the multi-frame* a section of the second type of control information” is not supported by the specification, as described in Paragraph 3.3 above.

6.6 Claim 37 states, “A multi-frame transmission communication system according to claim 34 wherein there is an *uplink established from the first device to the second device*”.

Claim 34 states in part, “a first device having a partitioning means ... and transmitter means adapted to transmit ...; and a second device having a receiver means ...”.

Therefore the claim implies that the uplink goes from the transmitter to the receiver, which is in contrast to accepted convention in GSM system where the uplink goes from the mobile part to the fixed part. This is also stated in the specification, Page 5, Lines 20-22, “...for the above described transmission direction from the fixed part to the mobile part (downlink) the transmission direction is reversed to the direction from the mobile part to the fixed part of the network (uplink) ...”.

Therefore, “there is an *uplink established from the first device to the second device*” is not supported by the specification.

6.7 Claim 38 states, “A multi-frame transmission communication system according to claim 34 wherein there is *downlink established from the first device to the second device*”.

Claim 34 states in part, “a first device having a partitioning means ... and transmitter means adapted to transmit ...; and a second device having a receiver means ...”.

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Therefore the claim implies that the downlink goes from the transmitter to the receiver, which is in contrast to accepted convention in GSM system where the downlink goes from the fixed part to the moving part. This is also stated in the specification, Page 5, Lines 20-22, "...for the above described transmission direction from the fixed part to the mobile part (downlink) the transmission direction is reversed to the direction from the mobile part to the fixed part of the network (uplink) ...".

Therefore, "there is *downlink established from the first device to the second device*" is not supported by the specification.

Claims rejected but not specifically addressed are rejected based on their dependency on rejected claims.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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8. Claims 20-22, 25, 29 and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by **Roberts et al.** (US Patent 6,418,558).

8.1 **Roberts et al.** teaches hybrid fiber/coax video and telephony communication.

Specifically, as per Claim 20, **Roberts et al.** teaches a method of transmission in a multi-frame system, each frame of the multi-frame system being associated with a first type of control information (CL32, L44-51; CL35, L11-15; CL35, L59-64; CL37, L29-34; CL37, L37-62; Fig 13); there further being provided a second type of control information (CL30, L28-36; CL30, L42-49; CL98, L62 to CL100, L21; Fig 9); the method comprising:

- a. partitioning the second type of control information into a number of sections corresponding to the number of frames in the multi-frame (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); and
- b. transmitting with each frame of the multi-frame:
 - i. the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and
 - ii. a section of the partitioned second type of control information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9).

8.2 As per Claim 21, **Roberts et al.** teaches the method of Claim 20. **Roberts et al.** also teaches that the second type of control information is for use on receipt of the multi-frame (CL30, L42-49; CL98, L62 to CL100, L21; Tables 9 and 10).

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8.3 As per Claim 22, **Roberts et al.** teaches the method of Claim 20. **Roberts et al.** also teaches on receipt of the multi-frames reforming the second type of control information (CL98, L62 to CL100, L21).

8.4 As per Claim 25, **Roberts et al.** teaches the method of Claim 20. **Roberts et al.** also teaches that the step of transmitting further comprises transmitting data with each frame (Fig. 13; Fig 9; CL36, L33-34; CL36, L43-46; CL38, L33-34).

8.5 As per Claim 29, **Roberts et al.** teaches a method of transmission in a multi-frame system, each frame of the multi-frame system being associated with a first type of control information (CL32, L44-51; CL35, L11-15; CL35, L59-64; CL37, L29-34; CL37, L37-62; Fig 13); there further being provided a second type of control information (CL30, L28-36; CL30, L42-49; CL98, L62 to CL100, L21; Fig 9); wherein each frame is transmitted with the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and a section of the partitioned second type of control information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); the method comprising:

receiving frames of the multi-frame and reforming the sections of the second type of control information into the second type of control information (CL98, L62 to CL100, L21).

8.6 As per Claim 32, **Roberts et al.** teaches a communication device for a multi-frame transmission communication system, each frame of the communication system being associated with a first type of control information (CL32, L44-51; CL35, L11-15; CL35, L59-64; CL37,

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L29-34; CL37, L37-62; Fig 13); there further being provided a second type of control information (CL30, L28-36; CL30, L42-49; CL98, L62 to CL100, L21; Fig 9); the communication device comprising:

- a. partitioning means adapted to partition the second type of control information into a number of sections corresponding to the number of frames in the multi-frame (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); and
- b. transmitter means adapted to transmit with each frame of the multi-frame:
 - i. the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and
 - ii. a section of the second type of control information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9).

8.7 As per Claim 33, **Roberts et al.** teaches a communication device for a multi-frame transmission communication system, each frame of the communication system being associated with a first type of control information (CL32, L44-51; CL35, L11-15; CL35, L59-64; CL37, L29-34; CL37, L37-62; Fig 13); there further being provided a second type of control information (CL30, L28-36; CL30, L42-49; CL98, L62 to CL100, L21; Fig 9); wherein each frame is transmitted with the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and a section of the partitioned second type of control information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); the communication device comprising:

receiving means for receiving frames of the multi-frame and reforming means for reforming the sections of the second type of control information into the second type of control information (CL98, L62 to CL100, L21).

8.8 As per Claim 34, **Roberts et al.** teaches a multi-frame transmission communication system, each frame of the communication system being associated with a first type of control information (CL32, L44-51; CL35, L11-15; CL35, L59-64; CL37, L29-34; CL37, L37-62; Fig 13); there further being provided a second type of control information (CL30, L28-36; CL30, L42-49; CL98, L62 to CL100, L21; Fig 9); the communication system comprising:

a. a first device having a partitioning means adapted to partition the second type of control information into a number of sections corresponding to the number of frames in the multi-frame (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); and

transmitter means adapted to transmit with each frame of the multi-frame the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and a section of the second type of control information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9); and

a second device having a receiver means adapted to receive frames of a multi-frame transmission from the first device, and means for reforming the partitioned second type of control information (CL98, L62 to CL100, L21).

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9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Roberts et al.** (US Patent 6,418,558), in view of **Le Strat et al.** (US Patent 6,134,220).

11.1 As per Claim 23, **Roberts et al.** teaches the method of Claim 20. **Roberts et al.** teaches the transmission is in a downlink (downstream) of a communication system, the first type of control information representing synchronization information and various parameters such as path delay adjustment, initialization, activation, dynamic allocation messages, modem control messages etc applied to the downlink (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and the second type of control information representing multiframe timing, out-of-band signaling and status and control messages associated with DS0 between Host digital

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terminal and the Integrated service unit (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9). **Roberts et al.** does not expressly teach that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied to the downlink. **Le Strat et al.** teaches that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied to the downlink (Fig. 9; CL7, L40-42), as the coding mode used depends on the quality of transmission required and the resources required (CL4, L41-50). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Le Strat et al.** so that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied to the downlink. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

Roberts et al. does not teach that the transmission is in a downlink of a communication system, the second type of control information representing a coding mode to be applied in an uplink of the communication system. **Le Strat et al.** teaches that the transmission is in a downlink of a communication system, the second type of control information representing a coding mode to be applied in an uplink of the communication system (CL7, L40-42 and CL14, L60-63), so the coding mode could be selected to reduce the resources used to transmit a service and increase the number of calls per cell (CL3, L13-16) and to optimize the transmission quality (CL7, L16-19). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Le Strat et al.** so the transmission is in a downlink of a communication system, the second type of control

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information representing a coding mode to be applied in an uplink of the communication system. The artisan would have been motivated because the coding mode could be selected to reduce the resources used to transmit a service and increase the number of calls per cell and to optimize the transmission quality.

11.2 As per Claim 24, **Roberts et al.** teaches the method of Claim 20. **Roberts et al.** teaches the transmission is in a downlink (downstream) of a communication system, the first type of control information representing synchronization information and various parameters such as path delay adjustment, initialization, activation, dynamic allocation messages, modem control messages etc applied to the downlink (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66); and the second type of control information representing multiframe timing, out-of-band signaling and status and control messages associated with DS0 between Host digital terminal and the Integrated service unit (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9). **Roberts et al.** does not expressly teach that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied to the downlink. **Le Strat et al.** teaches that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied to the downlink (Fig. 9; CL7, L40-42), as the coding mode used depends on the quality of transmission required and the resources required (CL4, L41-50). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Le Strat et al.** so that the transmission is in a downlink of a communication system, the first type of control information representing a coding mode applied

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to the downlink. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

Roberts et al. does not teach that the transmission is in an uplink of a communication system, the second type of control information representing a downlink quality measured in the downlink. **Le Strat et al.** teaches that the transmission is in an uplink of a communication system, the second type of control information representing a downlink quality measured in the downlink (CL7, L44-48 and CL14, L60-63), as the quality information is used to select the coding mode to be used (CL7, L30-38). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Le Strat et al.** so the transmission is in an uplink of a communication system, the second type of control information representing a downlink quality measured in the downlink. The artisan would have been motivated because the quality information would be used to select the coding mode to be used.

12. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Roberts et al.** (US Patent 6,418,558), in view of **Dahlin** (US Patent 5,199,031).

12.1 As per Claim 26, **Roberts et al.** teaches the method of Claim 25. **Roberts et al.** teaches modifying the DS0 by appending a ninth bit to carry multiframe timing, signaling information and control/status information (CL30, L28-36; CL30, L42-49; CL98, L634 to CL100, L21; Fig 9). **Roberts et al.** does not teach that the step of transmitting comprises channel encoding the data and the section of the second type of control information. **Dahlin** teaches that the step of

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transmitting comprises channel encoding the data and the section of the second type of control information (Fig. 2, Items 102 and 104; CL4, L14-35), as that allows manipulating the incoming data to carry out error detection and correction (CL4, L25-29). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Dahlin** so that the step of transmitting comprised channel encoding the data and the section of the second type of control information. The artisan would have been motivated because that would allow manipulating the incoming data to carry out error detection and correction.

12.2 As per Claim 27, **Roberts et al.** and **Dahlin** teach the method of Claim 26. **Roberts et al.** teaches transmitting with each frame of the multi-frame the first type of control information for the respective frame (CL35, L59-64; CL37, L37-62; Fig 13; CL39, L32-40; CL41, L55-66). **Roberts et al.** does not teach channel coding the first type of control information. **Dahlin** teaches channel coding the first type of control information (Fig. 2, Items 102 and 104; CL4, L14-35), as that allows manipulating the incoming data to carry out error detection and correction (CL4, L25-29). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Dahlin** that included channel coding the first type of control information. The artisan would have been motivated because that would allow manipulating the incoming data to carry out error detection and correction.

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12.3 As per Claim 28, **Roberts et al.** and **Dahlin** teach the method of Claim 27. **Roberts et al.** teaches frame formatting and interleaving the channel coded first type of control information, data and section of the second type of control information (Fig 13; CL38, L33-34; CL41, L55-66).

13. Claims 30, 31, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Roberts et al.** (US Patent 6,418,558), in view of **Balachandran et al.** (US Patent 5,881,105), and further in view of **Le Strat et al.** (US Patent 6,134,220).

13.1 As per Claim 30, **Roberts et al.** teaches the method of Claim 29. **Roberts et al.** does not expressly teach the step of decoding the received frames in accordance with a mode code derived from the first type of control information for each frame. **Balachandran et al.** teaches the step of decoding the received frames (CL3, L34-66), as that allows extracting the speech data from the frame (CL3, L33-43). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Balachandran et al.** that included the step of decoding the received frames. The artisan would have been motivated because that would allow extracting the speech data from the frame.

Le Strat et al. teaches using different coding modes to allow for different bit rates and different coding efficiency; and the coding mode is changed by the base station based on the transmission quality in the base station to mobile station direction thus requiring decoding the received frames in accordance with a mode code derived from the first type of control information for each frame (CL3, L43-50; CL7, L6-11; CL7, L30-42), as the coding mode used

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depends on the quality of transmission required and the resources required (CL4, L41-50). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Balachandran et al.** and **Le Strat et al.** that included decoding the received frames in accordance with a mode code derived from the first type of control information for each frame. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

13.2 As per Claim 31, **Roberts et al.** teaches the method of Claim 29. **Roberts et al.** does not expressly teach encoding frames for transmission depending on the reformed second type of control information. **Balachandran et al.** teaches the step of encoding frames for transmission (CL3, L34-66), as that allows encoding the speech data into the frame format (CL3, L33-43). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Balachandran et al.** that included the step of encoding frames for transmission. The artisan would have been motivated because that would allow encoding the speech data into the frame format.

Le Strat et al. teaches using different coding modes to allow for different bit rates and different coding efficiency; and the coding mode is changed by the base station based on the transmission quality in the base station to mobile station direction thus requiring encoding frames for transmission depending on the reformed second type of control information (CL3, L43-50; CL7, L6-11; CL7, L30-42), as the coding mode used depends on the quality of transmission required and the resources required (CL4, L41-50). It would have been obvious to

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one of ordinary skill in the art at the time of the Applicants' invention to modify the method of **Roberts et al.** with the method of **Balachandran et al.** and **Le Strat et al.** that included encoding frames for transmission depending on the reformed second type of control information. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

13.3 As per Claim 35, **Roberts et al.** teaches the multi-frame transmission communication system of Claim 34. **Roberts et al.** does not expressly teach that the second device is adapted to decode the frames of the multi-frame transmission in dependence on the first type of control information contained in a received frame. **Balachandran et al.** teaches that the second device is adapted to decode the frames of the multi-frame transmission (CL3, L34-66), as that allows extracting the speech data from the frame (CL3, L33-43). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the communication system of **Roberts et al.** with the communication system of **Balachandran et al.** that included the second device adapted to decode the frames of the multi-frame transmission. The artisan would have been motivated because that would allow extracting the speech data from the frame.

Le Strat et al. teaches using different coding modes to allow for different bit rates and different coding efficiency; and the coding mode is changed by the base station based on the transmission quality in the base station to mobile station direction thus requiring the second device adapted to decode the frames of the multi-frame transmission in dependence on the first type of control information contained in a received frame (CL3, L43-50; CL7, L6-11; CL7, L30-42), as the coding mode used depends on the quality of transmission required and the resources

required (CL4, L41-50). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the communication system of **Roberts et al.** with the communication system of **Balachandran et al.** and **Le Strat et al.** that included the second device is adapted to decode the frames of the multi-frame transmission in dependence on the first type of control information contained in a received frame. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

13.4 As per Claim 36, **Roberts et al.** teaches the multi-frame transmission communication system of Claim 35. **Roberts et al.** does not expressly teach the second device further comprises encoding means for encoding data transmission using a mode code based on the reformed second control information. **Balachandran et al.** teaches the second device further comprises encoding means for encoding data transmission (CL3, L34-66), as that allows encoding the speech data into the frame format (CL3, L33-43). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the communication system of **Roberts et al.** with the communication system of **Balachandran et al.** that included the second device further comprising encoding means for encoding data transmission. The artisan would have been motivated because that would allow encoding the speech data into the frame format.

Le Strat et al. teaches using different coding modes to allow for different bit rates and different coding efficiency; and the coding mode is changed by the base station based on the transmission quality in the base station to mobile station direction thus requiring the second device further comprising encoding means for encoding data transmission using a mode code

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based on the reformed second control information (CL3, L43-50; CL7, L6-11; CL7, L30-42), as the coding mode used depends on the quality of transmission required and the resources required (CL4, L41-50). It would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the communication system of **Roberts et al.** with the communication system of **Balachandran et al.** and **Le Strat et al.** that included the second device further comprising encoding means for encoding data transmission using a mode code based on the reformed second control information. The artisan would have been motivated because the coding mode used would depend on the quality of transmission required and the resources required.

Response to Amendments

14. Applicants' amendments, filed on September 28, 2004 have been considered. New Claim rejections under 35 USC 112 First paragraph have been included in response to the claim amendments made. Applicants' arguments with respect to claim rejections under 35 USC 102 (e) and 103 (a) are moot in view of the deletion of all previous claims and addition new claims.

Conclusion

ACTION IS FINAL

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15. Applicants' amendments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

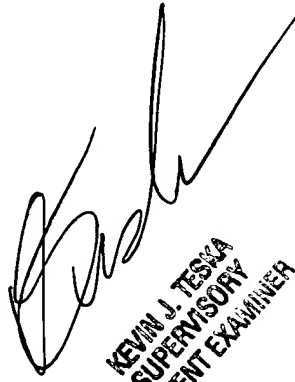
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska, can be reached on 571-272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K. Thangavelu
Art Unit 2123
December 4, 2004



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SUPERVISORY
PATENT EXAMINER